

IMPROVING COTTON PRODUCTIVITY IN CAMEROON : LIMITATIONS TO YIELD IMPROVEMENT & POSSIBLE SOLUTIONS

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Cotton in the Cameroonian Economy

- Agriculture in Cameroon
 - about ¼ of the population live off agriculture which represents 40% of GDP (gross domestic product)
 - cotton fibre: third non-petroleum export product after cocoa and coffee (5,2% of export earnings).

Cotton in the Cameroonian Economy

- Cameroon cotton production zone:
 - Divided into 8 agro-climatic regions composed of more than 350.000 farm units of 0,56 ha on average.
 - Extension service, commercialisation and processing are taken care of by the Cameroon Cotton Development Authority (SODECOTON).
- Cotton:
 - Strategic in the cropping system & an economic driving force in the savanna zone of North Cameroon.

Historical facts

- 1951 : Launching of cotton production by the Compagnie Française pour le Développement des fibres Textiles (CFDT)
- 1954 : Research work begins on cotton led by the IRCT
- 1967 : Restructuring Cotton Research with 3 distinct sections: agronomy, entomology & genetics

Historique

- 1974 : Création de la SODECOTON
- 1975 : Intégration de la recherche cotonnière à l'Institut de Recherche Agricole et Forestière (IRAF)
- 1979 : l'IRAF devient l'IRA puis l'IRAD en 1996

Collaboration très étroite CFDT et IRCT perpétuée par la SODECOTON et l'IRAD

The success of cotton research in Cameroon is a result of the non-interruption of research work since 1955, as well as its close collaboration with the actors in the development sector



IRAD – SODECOTON Relationship

- **Scientific aspects**
 - Scientific collaboration between IRAD & SODECOTON has been concretised:
 - Within the framework of the Cotton Programme for specific activities
 - Through more global conventions within projects executed by SODECOTON

IRAD – SODECOTON Relationship

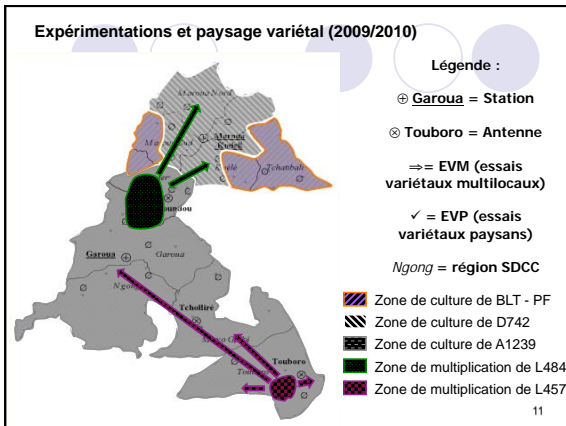
- **Scientific aspects**
 - **Programme Coton**
 - Each year SODECOTON submits research themes to the Cotton Programme for execution
 - **Principal objectives research work conducted are :**
 - Dispose of appropriate genetic plant material for the each ecological zone
 - Produce innovative & adapted techniques
 - Integrate new innovative cropping protocols & technologies

Principal results of this collaboration

- Development of 21 cotton varieties (3 presently cultivated in North – Cameroon)
 - Cultivated area increased 4,5 times
 - Cotton-grain production increased 11folds
 - Average Field yields multiplied by 3
 - Fiber yields increased from 28,5% to 41,6%
- Evident of *Helicoverpa armigera* tolerance to insects
- Conditions & modalities of phytosanitary product application put in place

Evolution of Varietal Productivity (estimations)

Variétés	Year of introduction	Far-North province	North province
Allen Commun	1951	100	100.0
Allen 333	1959	112.7	110.0
BJA 592		128.8	126.6
L142-9	1973	136.9	
IRCO5028	1975		124.6
IRMA 96-97	1981	141.4	
IRMA 1243	1985	145.5	130.2
IRMA BLT-PF	1995	156.7	
IRMA 1239	1996		130.2
IRMA D742		157.9	
IRMA L484	2010	160	
IRMA L457	2010		160



Main Achievements of the collaboration

- Phytosanitary treatment program now conducted by most producer groups
- Outreach program to advise farm units is being tested at the level of farmer groups by SODECOTON
- Yearly Formation of support staff of SODECOTON
- Participation in the organisation of fora (Meetings, Workshops, Seminars et Conférences)

Main Achievements of the collaboration

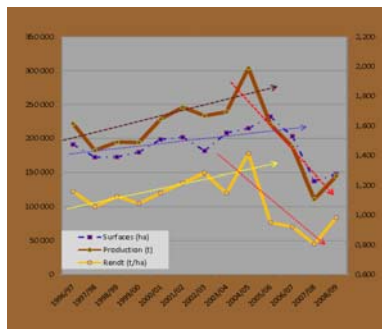
- ☐ Methods of land preparation
- ☐ Sowing Dates
- ☐ Sowing Densities
- ☐ Fertilisation
 - Formulae et fertilizer formulation
 - Fertilizer application methods
 - Fertilizer application dates

Main Achievements of the collaboration

- Fight against weeds
 - Chìmical
 - Cultural
- Some aspects of the physiology of cotton under poor rainfall conditions
- Protection & improvement of soil fertility with SCV (*système de culture sous couvert végétal*) – cropping under permanent vegetation cover

Constraint to Cotton Cultivation

- Crumbling of Yield and Production



Constraint to Cotton Cultivation

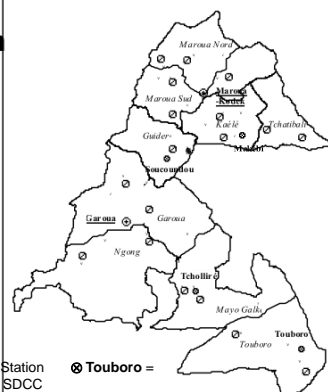
- International Economique Environnement
 - Since May 2004, world cotton prices have remained low (< 0.60 USD/lb) despite some sporadic increases.
 - Weak dollar to the Euro aggravated the situation for producers;
 - Low productions result in higher cost of prdn of fiber (644 to 762 Fcfa Fob)

Constraints to Cotton Cultivation

- Socioeconomic constraints, but also scientific and technical constraints
 - Genetic materials (high yielding with good fiber technological characteristics)
 - Insects pressure and lack chemical insecticides with large spectrum and moderate prices for farmers

Response from research

- Experimental protocol for varietal tests in the cotton producing regions



ENTOMOLY STUDIES

- RESISTANCE
- PROGRAMMES OF TREATMENT
- TESTING NEW INSECTICIDES
- LABORATORY WORKS ON Bt TOXINS

